Integrated Service Management System
Inventor: Takeshi Ishizaki

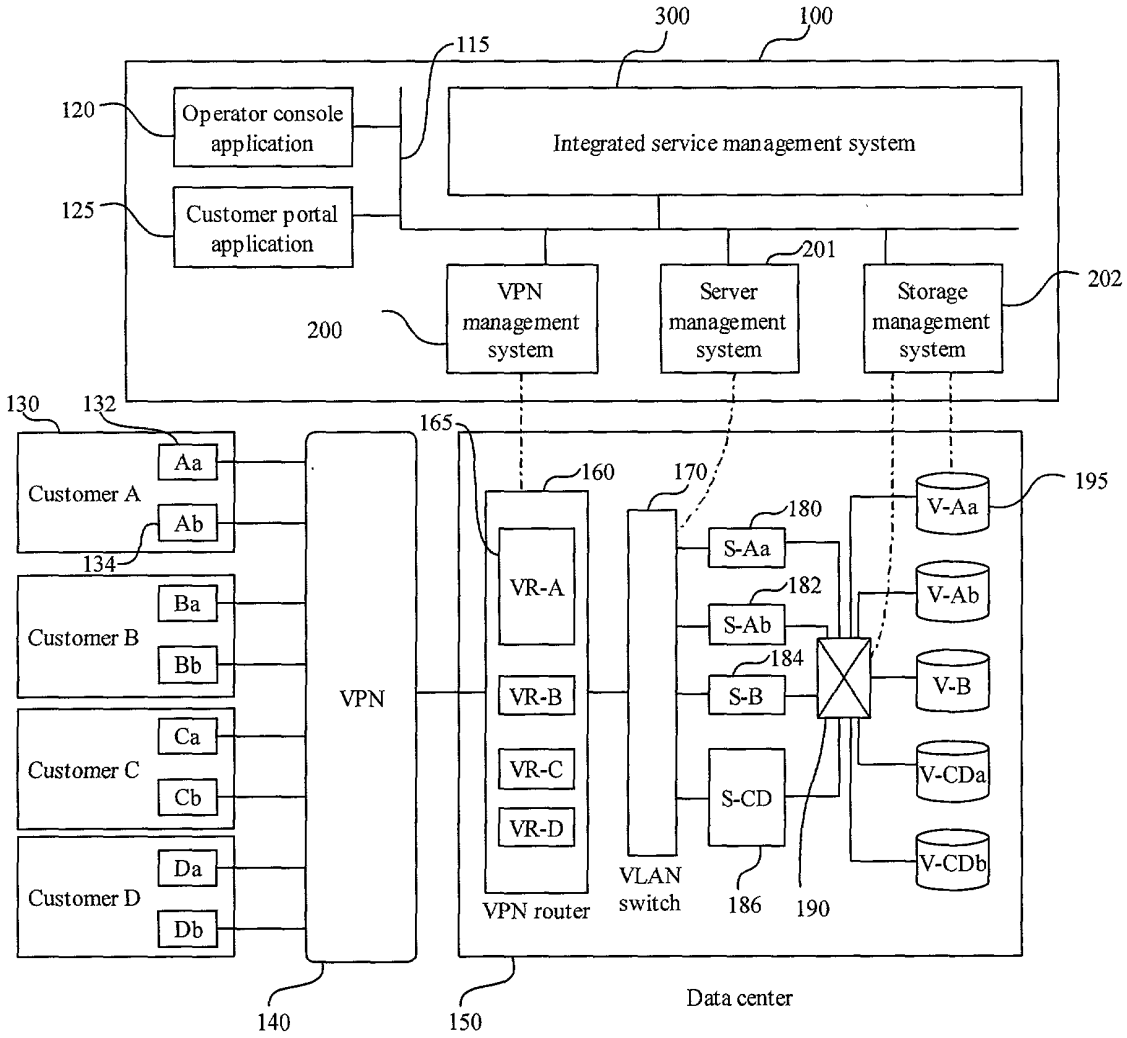


Fig. 1 System configuration

FIG 1.

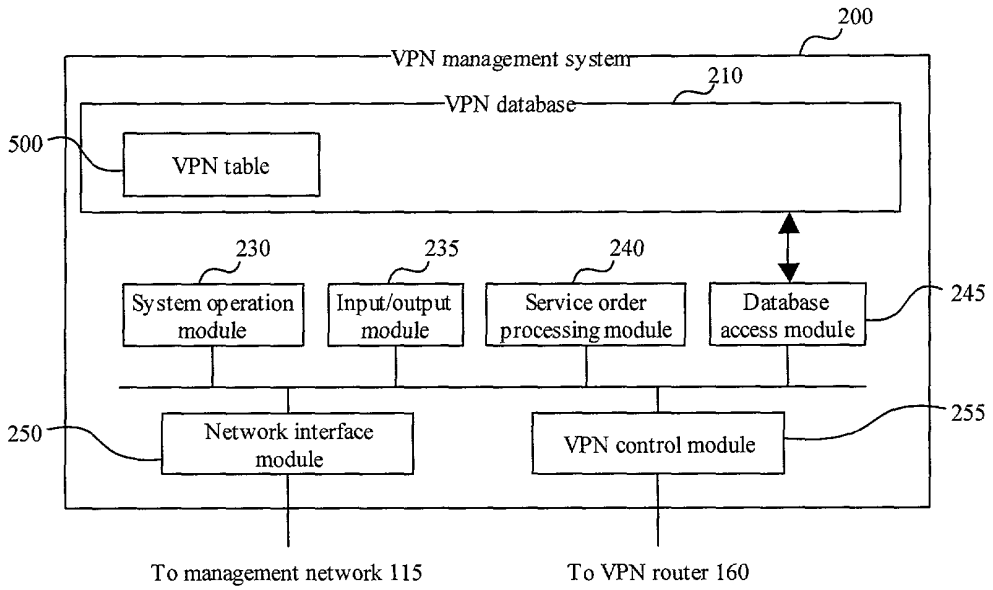


Fig. 2 VPN management system

FIG. 2

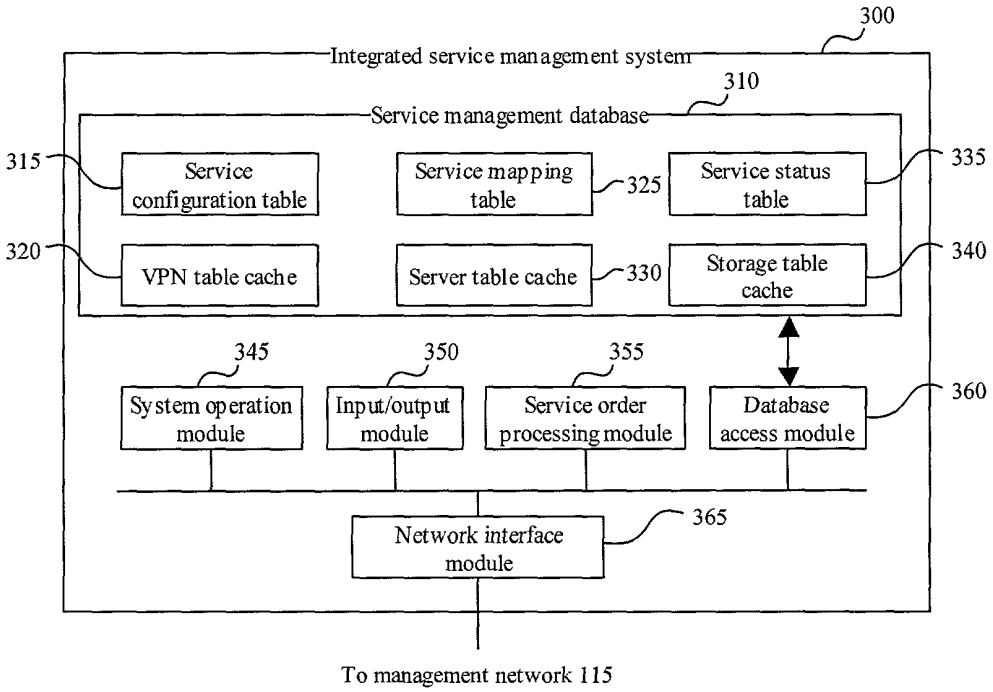


Fig. 3 Integrated service management system (ISMS)

FIG 3.

400

| Subsystem name | Address |
|---|---|
| VPN subsystem | 192.168.1.11 |
| Server subsystem | 192.168.1.12 |
| Storage subsystem | 192.168.1.13 |

Fig. 4 Service configuration table

FIG. 4

500

| VPN ID | Site | Address 1 | Address 2 | Protocol | Internet | VLAN ID |
|---|---|---|---|---|---|---|
| VR-A | Aa | IP(Aa) | IP(VR-A) | PP2P | Yes | VID-A |
| | Ab | IP(Ab) | IP(VR-A) | PP2P | Yes | |
| VR-B | Ba | IP(Ba) | IP(VR-B) | IPsec | Yes | VID-B |
| | Bb | IP(Bb) | IP(VR-B) | IPsec | No | |
| VR-C | Ca | IP(Ca) | IP(VR-C) | L2TP | No | VID-C |
| | Cb | IP(Cb) | IP(VR-C) | L2TP | No | |
| VR-D | Da | IP(Da) | IP(VR-D) | IPsec | Yes | VID-D |
| | Db | IP(Db) | IP(VR-D) | IPsec | Yes | |

Fig. 5 VPN table

FIG. 5

Attorney Docket No.: 2003-0185

600

| Server | Address | VLAN ID | Application | OS | CPU |
|---|---|---|---|---|---|
| S-Aa | IP(S-Aa) | VID-A | WWW | OS-1 | 1GHz |
| S-Ab | IP(S-Ab) | | Email | OS-1 | 1GHz |
| S-B | IP(S-B) | VID-B | WWW/Email | OS-2 | 866MHz |
| S-CD | IP(S-CD) | VID-CD | Email/Calendar | OS-3 | 750MHz |

Fig. 6 Server table

FIG. 6

700

| Volume | Port | Server allowed | Capacity | Access |
|---|---|---|---|---|
| V-Aa | P(V-Aa) | S-Aa, S-Ab | 100GB | Read only |
| V-Ab | P(V-Ab) | S-Aa, S-Ab | 100GB | Read only |
| V-B | P(V-B) | S-B | 50GB | Read only |
| V-CDa | P(V-CDa) | S-CD | 30GB | Read/Write |
| V-CDb | P(V-CDb) | S-CD | 30GB | Read only |

Fig. 7 Storage table

FIG. 7

800

| Customer | VPN | Server | Volume |
|---|---|---|---|
| Customer A | VR-A | S-Aa, S-Ab | V-Aa, V-Ab |
| Customer B | VR-B | S-B | V-B |
| Customer C | VR-C | S-CD | V-CDa, V-CDb |
| Customer D | VR-D | S-CD | V-CDa, V-CDb |

Fig. 8 Service mapping table

FIG. 8

900

| Customer | VPN | Server | Volume |
|---|---|---|---|
| Customer A | Normal | Normal | Normal |
| Customer B | Normal | Normal | Normal |
| Customer C | Normal | Normal | Fault |
| Customer D | Normal | Normal | Normal |

Fig. 9 Service status table

FIG. 9

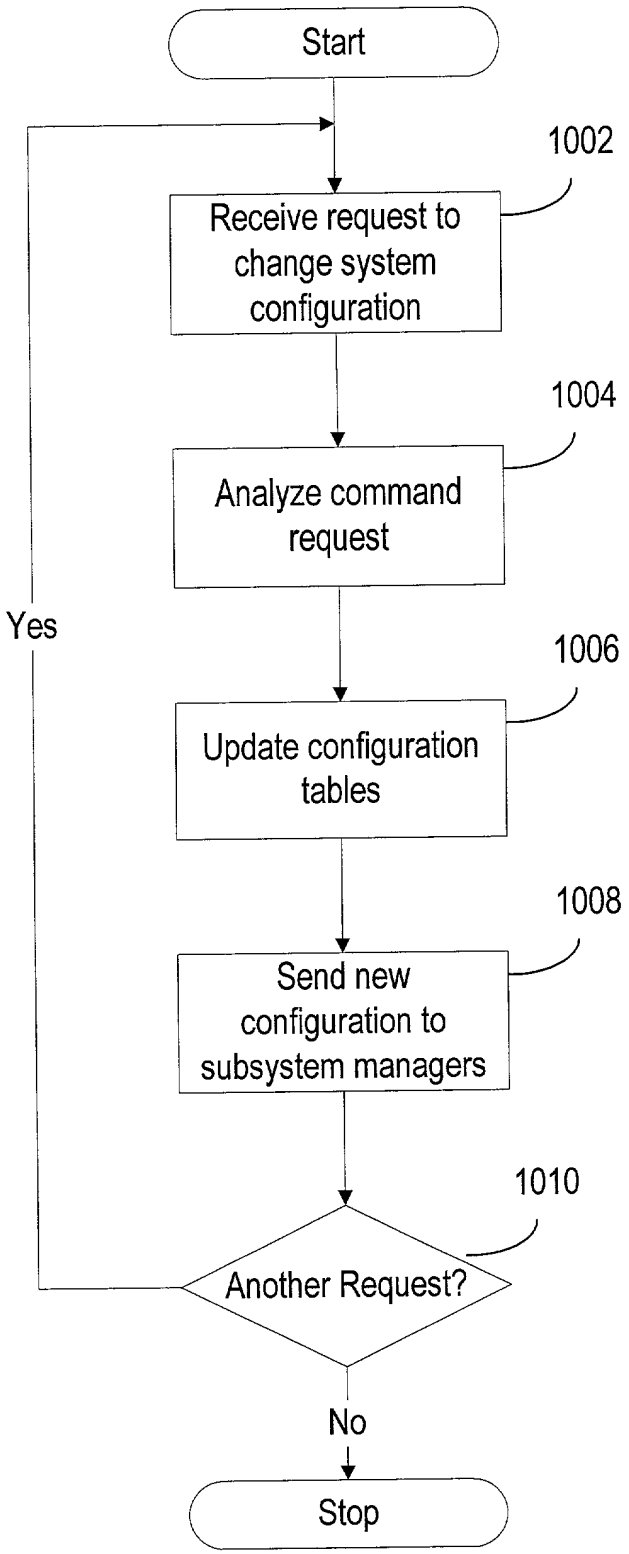
Start
1002
Receive request to change system configuration
1004
Analyze command request
Yes
1006
Update configuration tables
1008
Send new configuration to subsystem managers
1010
Another Request?
No
Stop

Fig. 10

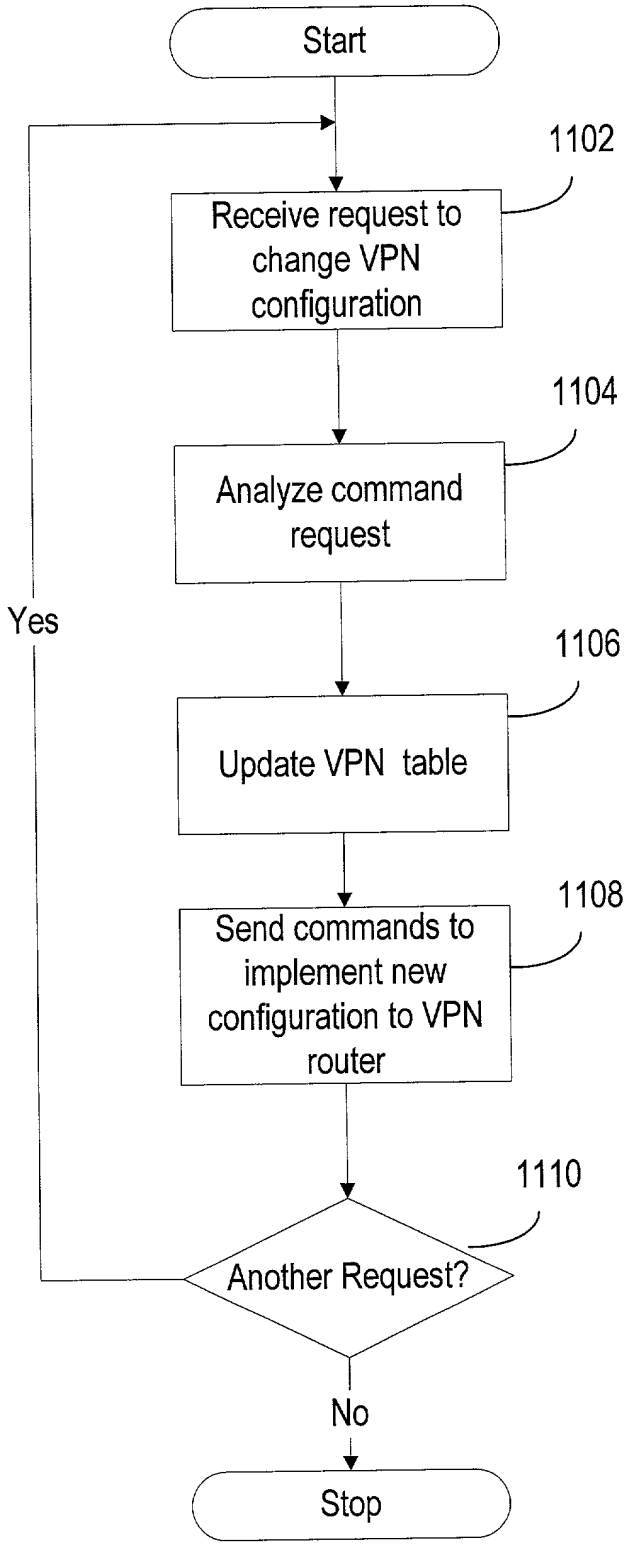
Start
1102
Receive request to change VPN configuration
1104
Analyze command request
1106
Update VPN table
1108
Send commands to implement new configuration to VPN router
1110
Another Request?
Yes
No
Stop

Fig. 11

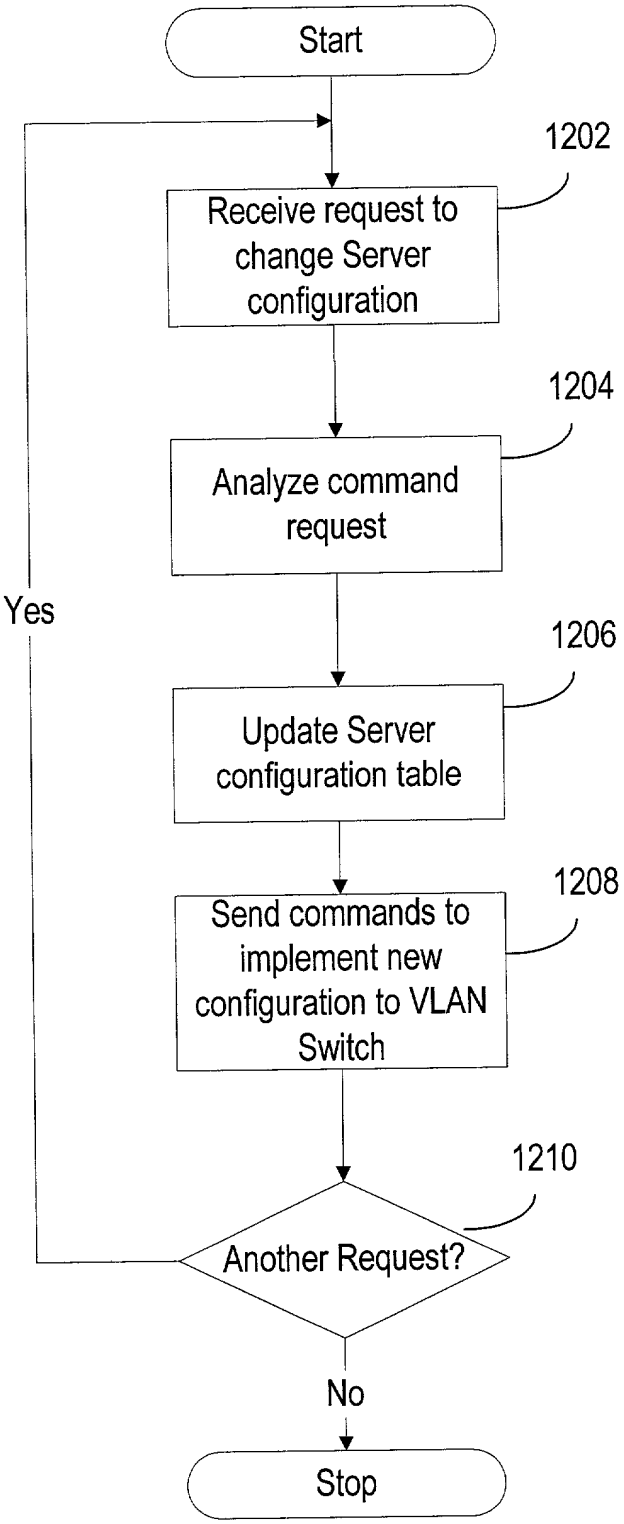
Start
1202
Receive request to change Server configuration
1204
Analyze command request
Yes
1206
Update Server configuration table
1208
Send commands to implement new configuration to VLAN Switch
1210
Another Request?
No
Stop

Fig. 12

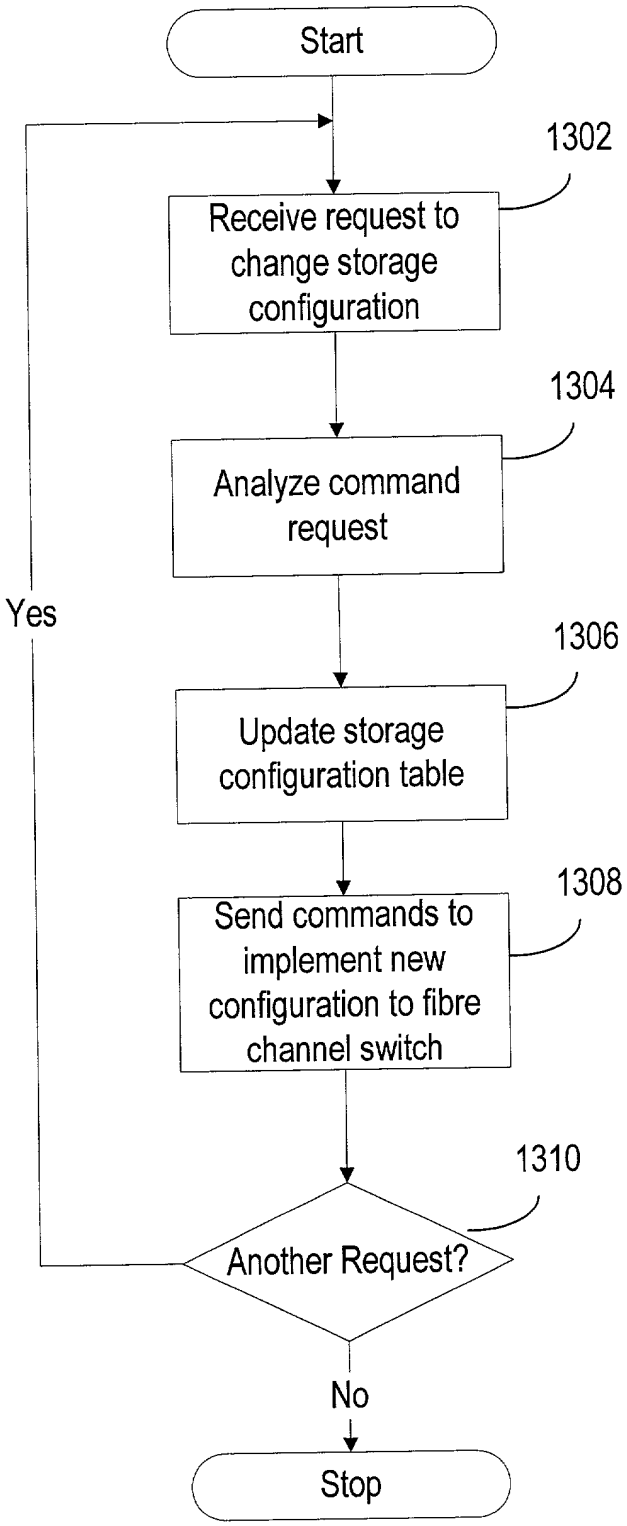
Start
1302
Receive request to change storage configuration
1304
Analyze command request
1306
Update storage configuration table
1308
Send commands to implement new configuration to fibre channel switch
1310
Another Request?
Yes
No
Stop

Fig. 13